

ABSTRACT OF THE DISCLOSURE

A method and apparatus for thixotropic molding of semisolid alloys are disclosed. The method comprises of feeding a dendritic-free feedstock bar into an extruder barrel, melting a terminal portion of the feedstock bar into a semisolid slurry by heating it to a temperature between its solidus and liquidus temperatures, and using the solid portion of the feedstock bar as an one-time “plunger” to inject the semisolid slurry into a mold cavity. The apparatus based on the present method, which is equipped without a regular extruder screw or plunger, uses a feedstock bar as a one-time plunger to inject semisolid slurries formed from a terminal portion of the same feedstock bar.